

**Use of Bisphosphonate or other Bone Remodeling agents in patients with  
stage 4 Breast Cancer with documented bone metastasis  
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**Introduction:**

Bisphosphonates are a category of medications that decrease pain from bone metastasis and may improve overall bone health. Bisphosphonates prevent bone breakdown. They are a class of medications widely used in the treatment and prevention of osteoporosis and certain other bone diseases (such as Paget's Disease), as well as in the treatment of elevated blood calcium. These drugs suppress bone breakdown by cells called osteoclasts, and, can indirectly stimulate the bone forming cells called osteoblasts. However, treatment of bone metastases is not curative. There is increasing evidence that bisphosphonates can prevent bony complications in some metastatic cancers and may even improve survival in some cancers. The appropriate time to start treatment is once a bone metastasis has been identified on imaging. It is recommended by both NCCN guidelines and ASCO guidelines to be used in patients with bone metastases due to breast cancer. One of the serious adverse effects of using this medicine is osteonecrosis of the jaw particularly in patients with underlying dental disease or poor dental health who need dental procedure in the future. It is recommended that patient undergo dental evaluation and treatment before starting bisphosphonate.

**Study:**

We wanted to assess the use of bisphosphonate in breast cancer patients with metastatic disease to the bone. We did a retrospective chart review study for all patients diagnosed with stage IV breast cancer in 2013. Patients list obtained from tumor registry.

**Results:**

12 patients were identified, only 8 of them received their care at Truman medical center and have available data for review. Of those 8 patients, 5 did receive Bisphosphonate and 3 (37.5 %) didn't (See table 1). Of those 3 who did not receive, 2 did not have dental evaluation and clearance to receive the medicine and 1 did not receive for undocumented reasons. Even for people who did receive bisphosphonate the average time from diagnosis of bone metastasis till receiving first dose of bisphosphonate was 6.6 months (0- 17 mo.). All were due to delay in obtaining dental evaluation and clearance.



Table -1

Total stage 4	11	
Received care at TMC	8	
Received Bisphosphonate	5	62.50%
Didn't Receive Bisphosphonate	3	37.50%

**Discussion:**

We have a lower rate of use of bisphosphonate in patients with stage IV breast cancer (62.5%) and that's mainly due to delay or inability to obtain dental evaluation and clearance. This applies more to our patients population who have limited options to access dental care and the treatment with bisphosphonate get delayed because of that.

**Intervention:**

1. Oncology department to reach out to the community and the sponsors trying to obtain a fund for dental care to help the patient seen by dentist and undergo the needed treatment and intervention before starting the medicine.

